MYCOBACTERIOLOGY

The Mycobacteriology Unit serves as a reference laboratory for the identification of mycobacteria. This unit also offers isolation and identification of mycobacteria from clinical specimens.

Susceptibility testing for the first and second line anti-tuberculosis drugs is performed in this unit on isolates of *M. tuberculosis*. For a more extensive drug susceptibility profile, isolates are sent to Centers for Disease Control and Prevention (CDC). It can take longer for drug susceptibility results if the patient shows resistance to any drugs. Submitters requesting results to be faxed must submit a *CONFIDENTIALITY NOTICE* stating that their fax machine is in a secure location accessible *ONLY* to authorized personnel.

Turn-Around Times

Direct Tests:

Positive smear (*phoned and mailed*)..... 24 - 48 hours
Negative smear (*mailed*). ..... 24 - 48 hours

Amplified Mycobacterium Tuberculosis Direct test (AMTD):
Performed weekly on first-time positive smears and on special requests with prior arrangement
Results *(phoned and mailed)*..... 24 hours

Culture Results:

AFB positive cultures *(mailed)* ..... 1 – 4 weeks
AFB Negative cultures (*mailed*). ..... 8 weeks

Genetic Probe Test (GP):
Performed weekly on AFB positive cultures
Results (*phoned and mailed*)..... 24 hours

If genetic probe is negative for MTBC, MAC, *M. gordonae*, and *M. kansasii*, then the culture is considered an *atypical* or a MOTT (Mycobacterium Other Than Tuberculosis) and will be identified by using biochemical analysis.

Biochemical Analysis
Results *(phoned and mailed)* ..... 2 – 3 months

Drug Susceptibility:

Performed on confirmed Mtbc cultures
Bactec*..... 7 - 10 days
Plate method**..... 4 weeks

* Bactec drugs employed: Streptomycin, Isoniazid, Rifampin, Ethambutol, Pyrazinamide.
** Plate method drugs employed: Streptomycin, Isoniazid, Rifampin, Ethambutol, Ethionamide, P-aminosalicyclic acid, Ofloxacin, and Amikacin.

Collection and Submission Instructions for Mycobacteriology

AGENT/DISEASE	SPECIMEN	COLLECTION TIME	CONTAINER	TRANSPORT TEMP.	REMARKS
Mycobacteria	Sputum	Early morning specimen on 3 consecutive days, ship each specimen as obtained to be received by PHL less than 5 days after collection	Sterile plastic centrifuge tube**	Ambient temperature	Two to three teaspoonsful is sufficient. Saliva is a poor specimen. Send each specimen as collected.*
	Gastric washing	Before breakfast, early morning specimen on 3 consecutive days are recommended	Sterile plastic centrifuge tube**	Ambient temperature or Refrigerate at 4°C	Send each specimen as collected*
	Urine	Early morning midstream collection on 3 consecutive days, 30 ml per tube, ship each specimen as it is obtained	Sterile plastic centrifuge tube**	4°C, if possible	Send each specimen as collected, tighten cap well and seal with parafilm M™ or pressure-sensitive labeling tape*
	Stool	See remarks	Sterile specimen container or centrifuge tube	Ambient temperature	Specimens must be received at the TB Unit within 24 hours of collection, call TB Unit before shipping*
	Spinal fluid		Small, tightly capped, sterile containers	Ambient temperature or 4°C	Ship as indicated*
	Tissues or swabs	Collect aseptically	Same as above	Refrigerate at 4°C	Should have a small amount of sterile distilled water added to prevent drying.* Carey Blair or Aimes transport media NOT recommended.
Mycobacterial cultures	For ID, confirmation or susceptibility testing		Culture tube, securely tighten cap, seal with parafilm M™ or pressure-sensitive labeling tape*	Ambient temperature	Ship as indicated*, *use courier service to ship Petri dishes*

* Specimens must be shipped in double cardboard mailers to meet IATA, OSHA and postal requirements.
** Specimen collection kit may be ordered through PHL.

Pursuant to WAC 246-101, positive results for *Mycobacterium tuberculosis* are notifiable within 2 working days to DOH – TB Laboratory. Specimen submission is required.